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REMARKS

Applicant intends this response to be a complete response to the Examiner's 7 **December** 2007 Final Office Action. A complete list of claims is included.

Preliminary Statement

Applicant recognizes some of the difficulties that the Examiner has had with the claims of this application may stem both from the order of their appearance and on some of the wording. Applicant has submitted a new set of claims 123-148, where Applicant tried to make the claim order understandable. Applicant also laid out all the claim elements in a more straight forward manner. Applicant and Applicant's attorney hopes that the reordering and amendments will make the claims for understandable.

DETAILED ACTION

Claims

1. Claims 37-38, 74-75, 77-83, 85-122 are pending with *claims* 37-38, 74-75 and 101-117 withdrawn.

Examiner's Note

The Examiner states as follows:

> 2. Applicant's representative is advised to consult with Applicant to at least review and possibly give a second opinion on how to claim Applicant's invention. The Examiner has attempted to comprehend what Applicant is claiming, however, most of the more than 120+ claims Applicant has presented have significant vagueness and indefinite issues as made of record and the pending language may not accurately reflect what Applicant intends to claim. Furthermore, there continues to be issues such as claims depending on cancelled claims, issues of new matter and further 35 USC 112, second paragraph, issues in addition to an unusually large number of claims that are confusing. If Applicant deems it appropriate Applicant may want to consider reducing the number of claims and focusing more precisely on Applicant's invention. Applicant appears to be overwhelmed with the unusually large number of claims and consequently has difficulty precisely presenting claims absent confusion. In the alternative Applicant is advised to spend a significantly larger amount of time clearing up the record. Furthermore, it is noted that the Examiner has expended an unusually large amount of time on this case due in large part to Applicant's drafting claims that do not comply with U.S. patent law and procedures. Applicant is advised to carefully review each word of each claim to ensure accuracy and compliance with US patent law and procedure.

Applicant acknowledges the Examiner's statements, and understands the Examiner's difficulties. Applicant and Applicant's attorney have tried diligently to conform the claims to standard US practice and to make the claims understandable and readable, without introducing terminology the would clash with the specification. Applicant hopes that the new claim will rectify some of the difficulties in the prior claim language.

WITHDRAWN REJECTIONS

The Examiner states as follows:

The 35 U.S.C. 103 rejection of claims 76-77, 83-85, 88-89, 93 and 96 of record in the Office Action mailed 7 May 2007, page 3, paragraph 7, as being unpatentable over Britton (US 4,454,184) in view of Rasmussen (US 4,039,364) have been withdrawn due to Applicant's amendments in the Paper filed 24 October 2007.

The 35 U.S.C. 103 rejection of claims 79-82, 86, 90, 94-95, 97-98 and 100 of record in the Office Action mailed 7 May 2007, page 3, paragraph 8, as being unpatentable over Britton (US 4,454,184) in view of Rasmussen (US 4,039,364) and Lappala (US 2,851,389) have been withdrawn due to Applicant's amendments in the Paper filed 24 October 2007.

The 35 U.S.C. 103 rejection of claims 87, 91-92 and 99 of record in the Office Action mailed 7 May 2007, page 4, paragraph 9, as being unpatentable over Britton (US 4,454,184) in view of Britton (US 4,454,184) in view of Rasmussen (US 4,039,364), Velazquez (US 5,614,297) and Cederblad et al. (US 6,204,207) have been withdrawn due to Applicant's amendments in the Paper filed 24 October 2007.

The 35 U.S.C. 112, second paragraph, rejections of claims 76-100 of record in the Office Action mailed 7 May 2007, page 4, paragraph 10, have been withdrawn due to Applicant's amendments in the Paper filed 24 October 2007.

The 35 U.S.C. 103 rejection of claim 78 of record in the Office Action mailed 7 May 2007, page 6, paragraph 11, as being unpatentable over Britton (US 4,454,184) in view of Rasmussen (US 4,039,364) and Johnston (US 3,340,128) have been withdrawn due to Applicant's amendments in the Paper filed 24 October 2007.

Applicant acknowledges the withdrawal grounds of reaction with thanks.

NEW REJECTIONS

Claim Objections

8. **Claim 85** stands objected to due to informalities.

The Examiner contends as follows:

Claim #85 is dependent on cancelled claim #84. Appropriate correction is required.

Applicant has canceled claim 85 rendering this objection moot.

Claim Rejections - 35 USC § 112

9. **Claims 81, 95, 120 and 122** stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the **written description** requirement.

The Examiner contends as follows:

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

10. The phrase "where the discontinuous layer are absent" in claim 81, line 4 is **new matter** as Applicant does not have support for said negative limitation.

11. The phrase "regions of the films free of the discontinuous layer" in claim 95, lines 3-4 is **new matter** as Applicant does not have support for said negative limitation.

12. The phrase "moderate bonds" in claim 120, line 2 is **new matter** as Applicant does not have support for said limitation.

Applicant has canceled claim 81 and replaced it with claim 129, which recites the term "regions of the films A and B devoid of their respective discontinuous layers." Support for this term can be found in the specification at least at paragraphs 50, 55, 58, 75 and 142.

Applicant has canceled claim 95 and replaced it with claim 130, which recites the term "regions of the films A and B devoid of their respective discontinuous layer." Support for this term can be found in the specification at least at paragraphs 50, 55, 58, 75 and 142.

Applicant has canceled claims 118 and 120, which now are part of new claim 123. New claim 123 recites three bonds: first bonds, second bonds and third bond. These three bond types find support in the specification at least at paragraphs 58-68 and 109-113. Applicant has attempted to define the bonds a strong, weak and moderate, but Applicant understands now that such language could be viewed as new matter; however, the specification clearly set forth that there are three different bond types: strong bonds at the intersections of the discontinuous layers, weak bonds at the regions devoid of the discontinuous layers and bonds between the discontinuous layer on one film and the regions devoid of the discontinuous layer on the other film. The specification goes on to state that the strong bonds have a higher bond strength than the weak bonds, and that the other bonds have a strength between these two. Thus, Applicant can only state that the term moderate should probably b have etween intermediate. However, Applicants have opted for first bonds, second bonds and third bonds in place of a, b and c in the specification in new claim 123.

Applicant, therefore, respectfully request withdrawal of these rejections.

13. **Claims 77-83, 85-100 and 118-122** stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner contends as follows:

> 14. The terms **"high tensile strength"** in claim 118, lines 3 and 8 and **"strong bonds"** line 14 and the term **"moderate bonds"** in claim 120, line 2 are **relative terms** that renders the claims indefinite. Said terms are not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. A person having ordinary skill in the art may interpret the same strength to be low and the same bonds to be weak.

Applicant has canceled claim 118 and replaced it with new claim 123. Applicant has replaced the alleged relative terms strong and moderate bonds with three bonds: first bonds, second bonds and third bonds. Support for the three bonds is in the specification as bonds of type (a), bonds of type (b) and bonds of type (c). Applicant, therefore, respectfully request withdrawal of this

rejection.

However, Applicant disagrees with the Examiner with respect to the term "high tensile strength." The specification articulates several polymers that satisfy this limitation. Moreover, this limitation is well understood by ordinary artisans in the field of laminates. Furthermore, references discussed in the background, disclose numerous high tensile strength polymers such as polyethylenes, polypropylenes, polyamines, and polyesters. Thus, there is adequate written description and the articulation of specific polymers and polymer blends that satisfy this limitation rendering the limitation clearly understandable within the context of the invention. Applicant, therefore, respectfully request withdrawal of this rejection.

The Examiner contends as follows:

> 15. Claim 118 recites the limitation "the main layer" in line 9 (more than one main layer), "the discontinuous layer" (more than one discontinuous layer) in line 10, "the pattern" in lines 12 and 13, "the films" in line 14; claim 199 recites "the bonding layers" in line 4; claim 120 recites "the bonding layer" in line 2 and "the pattern" in line 7, claim 122 recites "the bonding layers in line 4 and "the films" in line 5. There is **insufficient antecedent basis** for these limitations in the claims.

Applicant has replaced claim 118 with new claim 123 and have written the claim so that the terms "main direction", "the films", "the bonding layer", and "the pattern" are now preceded by the film to which they relate. Based on the changes, Applicant respectfully requests withdrawal of these rejection.

The Examiner contends as follows:

> 16. The phrase "the crossing points" in claim 83, last line is vague and indefinite since the term "the" is both underlined and lined through, thus, it is unclear whether the term is added or deleted.

Claim 83 is now new claim 136. Applicant notes that the cited claim language was removed in Applicant's 10/01/2007 submission.

Examiner's Note

The Examiner states as follows:

> 17. In addition to the clear and possible vagueness issues as discussed above, Applicant is advised to carefully review each word of each claim to ensure accuracy and compliance with US patent law and procedure. On numerous occasions Applicant refers to an element in a claim as being singular and plural. Even though the Examiner may understand what Applicant is saying, Applicant may be confronted with possible invalidity issues if Applicant does not correct said possible issues. Clarification and/or correction is required.

Applicant has gone over the claims repeatedly and carefully and believes that all such issues have been addressed and/or corrected. Applicant thanks the Examiner for this kind

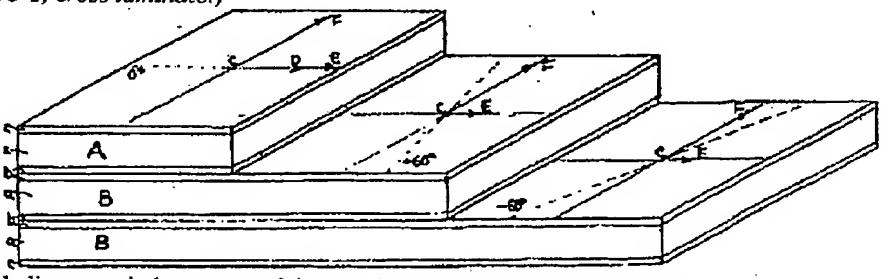
recommendation.

Claim Rejections - 35 USC § 103

18. **Claims 118-122 [new claims 123 and 147]** stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen (WO 01/96102) in view of Rogosch et al. (US 3,687,764).

The Examiner contends as follows:

Regarding claims 118, 120 and 122 Rasmussen ('102) teaches a cross-laminate comprising: a first coextruded film A having a main direction of molecular orientation (*See p. 5, II. 26-31 and FIG-2, cross laminate.*)



and including: a main layer comprising a polymer material having a high tensile strength, a patterned layer disposed on a surface of the main layer, where the layer comprises a different polymer material, a second extruded film B having a main direction of molecular orientation and including: a main layer comprising a polymer material having a high tensile strength, a patterned surface layer disposed on a surface of the main layer, where the layer comprises a different polymer material, where the film B is arranged so that the main direction of the film B crosses the main direction of the film A and the pattern of the discontinuous layer of the film B crosses the pattern of the discontinuous layer of the film A, and strong bonds bonding the films together at intersections of the pattern of the layer of the film A and the pattern of the layer of the film B (*See p. 11, I. 25 to p. 12, I. 14, p. 6, II. 1-9 and FIG-2 wherein films A and B with heat seal layers #c, main layers #a and lamination layers #b, with variable compositions are bonded to each other and wherein the layers are wrapped such as in a gusseted tube and as the layers progress to the opening(s) in the gusseted tube until the layers terminate. Furthermore, the bonding is clearly different and thus stronger or weaker when the bag is formed as compared to the bonding amongst each sub layers, a, b and c, of the films and amongst the films. Additionally, since the various layers comprise various compositions, various bonding amongst the layers and various bonding to form the package then the different regions of the structure clearly have stronger/weaker tensile strengths as compared to other regions.*), where the films A and B are either uniaxially or unbalanced biaxially molecularly oriented (*See p. 5, II. 26-31.*), however, fails to expressly disclose wherein the various layers are continuous or discontinuous and patterened and the bonding is moderate or weak between the films A and B and the other layers.

However, Rasmussen ('102) teaches wherein the structure is made into a bag for consumers, wherein the layers are continuous when wrapped such as with a gusseted tube and as the layers progress to the opening(s) in the gusseted tube until the layers terminate, becoming discontinuous. Furthermore, each layer clearly has a pattern whether it is substantially the same within the layer or upon the bonded and non-bonded areas with various bonding strengths and the additional layers and or/markings will clearly be applied at various regions in discontinuous and continuous manners to provide for the desired messages *(See p. 6, II. 1-9.)*. Additionally, pigments are added to the various compositions providing for further patterns *(See p. 11, I. 25 to p. 12, I. 14.)* for the purpose of providing a pleasing, strong bag for containing the packaged goods (See p. *6, II. 1-9.)*.

Furthermore, Rogosch ('784) teaches wherein the patterned multilayered laminated structures are reinforced with discontinuous and continuous layers of strands and the bonding varied based on region and layers to be lamianted *(See col. 3, II. 20-55 and FIGs 1 and 11, strands #18, 20 and 21.)* for the purpose of reinforcing a laminated structure *(See col. 1, II. 15-26.)*.

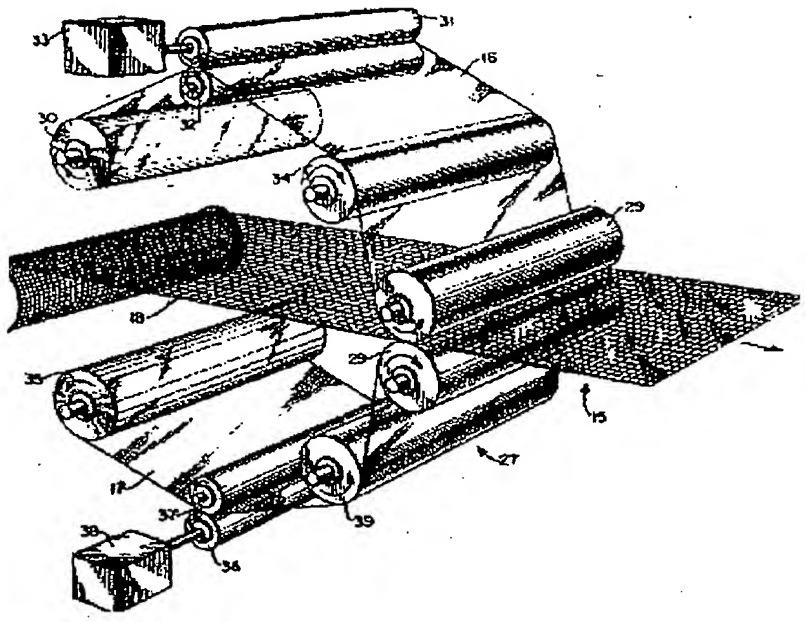


FIG. 1

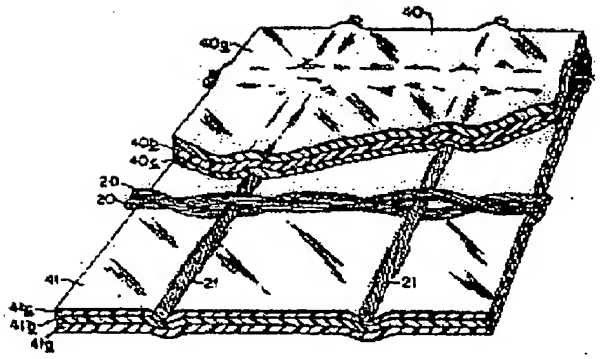


FIG. 11

Therefore, it would have been obvious to a person having ordinary skill in the art at the time Applicant's invention was made to provide the structure with discontinuous, continuous and patterned structure as expressly taught by Rogosch (784) and obviously taught by Rasmussen ('102) in Rasmussen ('102) in order to provide a strong, pleasing multilayered laminate.

Regarding claim 119, Rasmussen ('102) teaches a cross-laminate discussed above, however, fails to expressly disclose a continuous bonding layer interposed between the main layer and the discontinuous layer of each of the films A and B and weak bonds formed between the bonding layers of the films A and B in regions of the films free of the discontinuous layers.

However, the layers of Rasmussen ('102) as illustrated in FIG-2 and explained above are clearly continuous in the curved direction when wrapped to form the package and discontinuous in the transverse direction in the direction of the opening of the package *(See p. 11, l. 25 to p. 12, l. 14, p. 6, ll. 1-9 and FIG-2.)* for the purpose of providing a pleasing, strong bag for containing the packaged goods *(See p. 6, ll. 1-9.)*.

Furthermore, Rogosch ('784) teaches wherein the patterned multilayered laminated structures are reinforced with discontinuous and continuous layers of strands *(See col. 3, ll. 20-55 and FIGs 1*

and 11, strands #18, 20 and 21.) for the purpose of reinforcing a laminated structure (See col. 1, II. 15-26.).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time Applicant's invention was made to provide the structure with discontinuous, continuous and patterned structure as expressly taught by Rogosch (784) and obviously taught by Rasmussen ('102) in Rasmussen ('102) in order to provide a strong, pleasing multilayered laminate.

Regarding claim 121, Rasmussen ('102) teaches wherein: the film A further including a patterned second discontinuous layer disposed on a second surface of the main layer, where the second discontinuous layer comprises a different polymer material, and the cross-laminate further comprising: a second B film arranged so the main direction of the second B film crosses the main direction of the film A and the pattern of the layer of the second B film crosses the pattern of the second layer of the film A, second strong bonds bonding the second B film to the film A together at intersections of the pattern of the second layer of the film A and the pattern of the layer of the second B film (*See p. 11, I. 25 to p. 12, I. 14, p. 6, ll. 1-9 and FIG-2 wherein films A an B with heat seal layers #c, main layers #a and lamination layers #b, with variable compositions are bonded to each other and wherein the layers are wrapped such as with a gusseted tube and as the layers progress to the opening(s) in the gusseted tube until the layers terminate. Furthermore, the bonding is clearly different and thus stronger or weaker when the bag is formed as compared to the bonding amongst each sub layers, a, b and c, of the films and amongst the films. Additionally, since the various layers comprise various compositions, various bonding amongst the layers and various bonding to form the package then the different regions of the structure clearly have stronger/weaker tensile strengths as compared to other regions.*), where the second B film is either uniaxially or unbalanced biaxially molecularly oriented *(See p. 5, II. 26-31.),* however, fails to expressly disclose wherein the various layers are continuous or discontinuous and patterned.

However, Rasmussen ('102) teaches wherein the structure is made into a bag for consumers, wherein the layers are continuous when wrapped such as with a gusseted tube and as the layers progress to the opening(s) in the gusseted tube until the layers terminate, becoming discontinuous. Furthermore, each layer clearly has a pattern whether it is substantially the same within the layer or upon the bonded and non-bonded areas with various bonding strengths and the additional layers and or/markings will clearly be applied at various regions in discontinuous and continuous manners to provide for the desired messages *(See p. 6, II. 1-9.).* Additionally, pigments are added to the various compositions providing for further patterns *(See p. 11, I. 25 to p. 12, I. 14.)* for the purpose of providing a pleasing, strong bag for containing the packaged goods *(See p. 6, II. 1-9.).*

Furthermore, Rogosch ('784) teaches wherein the patterned multilayered laminated structures are reinforced with discontinuous and continuous layers of strands and the bonding varied based on region and layers to be lamianted *(See col. 3, ll. 20-55 and FIGs 1 and 11, strands #18, 20 and 21.)* for the purpose of reinforcing a laminated structure *(See col. 1, 11. 15-26.).*

Therefore, it would have been obvious to a person having ordinary skill in the art at the time Applicant's invention was made to provide the structure with discontinuous, continuous and patterned structure as expressly taught by Rogosch ('784) and obviously taught by Rasmussen ('102) in Rasmussen ('102) in order to provide a strong, pleasing multilayered laminate.

Applicant disagrees with the Examiner's contention that Rasmussen '102 disclosed " a patterned layer disposed on a surface of the main layer." See Examiner's statement above.

In Rasmussen '102, the bonding layers (b) in Figs. 1-3 are all continuous layers without discontinuities, *i.e.*, these layers are not discontinuous layers comprising arrays of parallel strands. In fact, Rasmussen '102 did not disclose or even suggest a discontinuous bonding layer comprises arrays of thin strands disposed on facing surfaces of adjacent films.

Moreover, Rasmussen '102 fails also to teach a bonding system for laminates that include bond to and between discontinuous bonding layers comprising strands. The present invention includes a bonding system includes three different bonding structures or types, having three different

bond strengths. The Rasmussen '102 laminates include a single bond having a single bond strength. Rasmussen '102 make no mention of other bond type.

While Rogosch et al. disclosed a multilayer reinforced plastic sheet material, the reinforcing web is not bonded to the two sheet materials. "The two sheets of material are bonded to each other in the **interstices** provided in the web." Rogosch et al. at Col. 1, ll. 18-19. See also Rogosch et al. at Col. 2, ll. 36-39; Col. 6, ll. 47-49. Col. 8, 23-35 and Claim 1. In fact, Rogosch et al. states that in some of the construction "very little direct adhesion is obtained between the inner ply of the ethylene-vinyl acetate thermoplastic and the woven scrim **18**." Rogosch et al. at Col. 8, 23-26. On the contrary, the strongest bonds of the present invention are not in the interstices between the strands, but are at the point where the strands of one film contact the strands of a facing film. No such structure is disclosed or even suggestion by Rogosch et al.

The combination of Rasmussen '102 and Rogosch et al. would also not result in the laminate of this invention or even suggest such a laminate. The combination would product a laminate of Rasmussen '102 with a Rogosch et al. reinforcing web interposed between the two facing continuous bonding layers (b), with bonding occurring in the interstices of the web and not at strand intersection points.

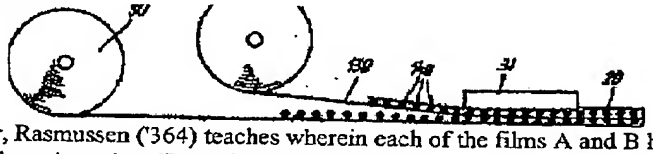
Because the combination of Rasmussen '102 and Rogosch et al. did not disclose or even suggest laminates having discontinuous bonding layer disposed on mutually facing surfaces of adjacent films, the combination cannot render Claims 118-122 [new claims 123 and 147] obvious. Applicant, therefore, respectfully requests withdrawal of this rejection.

19. **Claims 118-122, 77, 83, 85, 89, 93 and 96 [new claim 123, 147, 136, 124, 127, and 137]** stand rejected under 35 U.S.C. 103(a) as being unpatentable over Britton (US 4,454,184) in view of Rasmussen (US 4,039,364).

The Examiner contends as follows:

> Regarding claims 118, 120 and 122 Britton (US 4,454,184) teaches a cross-laminate comprising:
>
> a first coextruded film A having a main direction of molecular orientation *(See p. 5, 11. 26-31.)* and including: a continuous main layer comprising a polymer material having a high tensile strength, a patterned discontinuous layer disposed on a surface of the main layer, where the layer comprises a different polymer material, a second coextruded film B having a main direction of molecular orientation and including: a continuous main layer comprising a polymer material having a high tensile strength, a patterned discontinuous surface layer disposed on a surface of the main layer, where the discontinuous layer comprises a different polymer material, where the film B is arranged so that the main direction of the film B crosses the main direction of the film A and the pattern of the discontinuous layer of the film B crosses the pattern of the discontinuous layer of the film A, and strong bonds bonding the films together at intersections of the pattern of the discontinuous layer of

the film A and the pattern of the layer of the film B (See *col. 2, ll. 42-58, col. 3, ll. 1-19, col. 6, ll. 23-26, FIGs 4 and 8, #11a and #12a, multiple layers 3, 4, 5 and 6, FIGs 4 and 1 wherein #11 a, #12a, #13a and #14a cross each other. See FIG-4, continuous films of adhesive above and below the strands with different polymers. See Fig-1 wherein the strands are not a solid sheet thus discontinuous in the direction between the strands and wherein the adhesive is not discontinuous between the strands.),* however, fails to expressly teach wherein each of the films A and B having an uniaxial or biaxial molecular orientation.



However, Rasmussen ('364) teaches wherein each of the films A and B having an uniaxial or biaxial molecular orientation *(See col. 6, ll. 1-5.)* for the purpose of producing durable tarps for heavy duty applications *(See col. 1, ll. 16-19.).*

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to either uniaxially or biaxially orient the films as taught by Rasmussen ('364) in Britton ('184) in order to provide durable tarps for heavy duty applications.

Regarding claim 119, Britton ('184) teaches a cross-laminate discussed above, however, fails to expressly disclose a continuous bonding layer interposed between the main layer and the discontinuous layer of each of the films A and B and weak bonds formed between the bonding layers of the films A and B in regions of the films free of the discontinuous layers.

However, the layers of Britton ('184) as illustrated in FIGs 1 and 4 and explained above clearly have varying degrees on bonding depending on the materials of the various layers, location of the bonds and how the structure is joined to form the final product *(See col. 2, ll. 42-58, col. 3, ll. 1-19, col. 6, ll. 23-26, FIGs 4 and 8, #11a and #12a, multiple layers 3, 4, 5 and 6, FIGs 4 and 1 wherein #11a, #12a, #13a and #14a cross each other. See FIG-4, continuous films of adhesive above and below the strands with different polymers.)* for the purpose of providing a strong multilayered final lamiante *(See col. 1, ll. 9-14 and col. 2, ll. 49-58.).*

Therefore, it would have been obvious to a person having ordinary skill in the art at the time Applicant's invention was made to provide the above structure in order to provide a strong, multilayered laminate.

Regarding claim 121, Britton ('184) teaches wherein: the film A further including a patterned second discontinuous layer disposed on a second surface of the main layer, where the second discontinuous layer comprises a different polymer material, and the cross-laminate further comprising: a second B film arranged so the main direction of the second B film crosses the main direction of the film A and the pattern of the layer of the second B film crosses the pattern of the second layer of the film A, second strong bonds bonding the second B film to the film A together at intersections of the pattern of the second layer of the film A and the pattern of the layer of the second B film *(See col. 2, ll. 42-58, col. 3, ll. 1-19, col. 6, ll. 23-26, FIGs 4 and 8, #11a and #12a, multiple layers 3, 4, 5 and 6, FIGs 4 and 1 wherein #11a, #12a, #13a and #14a cross each other. See FIG-4, continuous films of adhesive above and below the strands with different polymers. See Fig-1 wherein the strands are not a solid sheet thus discontinuous in the direction between the strands and wherein the adhesive is not discontinuous between the strands.),* where the second B film is either uniaxially or unbalanced biaxially molecularly oriented *(See p. 5, ll. 26-31.),* however, fails to expressly disclose where the second B film is either uniaxially or unbalanced biaxially molecularly oriented *(See p. 5, ll. 26-31.).*

However, Rasmussen ('364) teaches where the second B film is either uniaxially or unbalanced biaxially molecularly oriented *(See col. 6, ll. 1-5.)* for the purpose of producing durable tarps for heavy duty applications *(See col. 1, ll. 16-19.).*

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to either uniaxially or unbalanced biaxially orient the films as taught by Rasmussen ('364) in Britton ('184) in order to provide durable tarps for heavy duty applications.

Regarding claim 77, Britton ('184) teaches wherein the pattern of the discontinuous layer of the film A comprises at least one first army of substantially parallel strands, the pattern of the discontinuous, layer of the film B comprises at least one second array of substantially parallel strand, and the strong bonds comprise crossing points of the two arrays formed by direct lamination *(See FIGs 1 and 4 and col. 3, l. 8 "spot welded" strands and col. 3, l. 17 "fused laminate").*

Regarding claims 83 and 96, Britton ('184) obviously teaches wherein a strength of the strong

bonds are at least 40 g cm^{-1} and a strength of the weak bonds are less than or equal to no more than 50% of a strength of the strong bonds, as measured by a peel test carried out on narrow specimens of the cross-laminate at a velocity of about 1 mm sec^{-1},and the lamination strength in the strand-free regions is 75% of the bonding strength , as measured by the peel test since a structure with an equivalent structure would also have the same lamination strength *(See col. 2, 11.* 42-58.).

Regarding claim 85, Britton ('184) teaches a laminate *(See FIGs 1 and 4 and col. 2, II. 42-58.).*

NOTE: the claim does not make sense since the claim depends on cancelled claim #84, thus, it is unclear what structure Applicant is attempting to further limit.

Regarding claim 88, Britton ('184) teaches wherein the bonding layers includes an adhesion modifying material to aid in adhesion of the weak bonds (See *col. 2, II. 42-*58).

Regarding claim 89, Britton ('184) obviously teaches wherein the pattern of the discontinuous layer of the films A and B comprises at least two arrays of strands, and at least one of the two arrays of strands being formed of a polymer material differing in appearance from the another of the two arrays of strands and where the strands of the two arrays are interspersed *(See col. 2, Il.* 25-58 *and FIGs 1 and 4.).*

Regarding claim 93, Britton ('184) teaches a continuous bonding layer interposed between the main layer and the discontinuous layer of at least one of the films A and B. *(See FIGs 1 and 4.).*

Britton did disclose layers (**11**, **12**, **13**, **14**) consisting of strands (**11*a***, **12a**, **13*a***, **14*a***); however, the sheet material of Britton is prepared by completely surrounding the strands in a mass of an adhesive. Thus, Britton relates to a sheet material includes layers of strands embedded in a medium 20. Britton at Col. 2, 49. Britton did not disclose or even suggestion forming bonds between intersection points between layers of strands. Thus, the bonding that occurs in Britton is between the adhesive during construction of the sheet from films comprising adhesive coated strand layers. Bonding between the strands and the adhesive is preformed in an applying step and not in a laminating step.

Rasmussen '364 is not directly combinable with Britton. Applicant does not know how one would uniaxially or biaxially orient the films of Britton, which comprise a plurality of strands embedded in an adhesive without destroying or distorting the strand alignment. Moreover, the Britton medium **20** that encases the strand is composed of a non-orientable polymer – polyvinyl chloride (with the additives), natural rubber, synthetic rubber, polyurethane, and other suitable plastic material; and adhesives. Britton at Col. 2, ll. 49-54.

Even if you were to combine a Britton film (mesh encased in adhesive) with the Rasmussen '364 film, the resulting product would be a Britton film bonded to a Rasmussen '364 film, which is not the laminates of this invention. That combination would be a uniaxially or biaxially oriented Rasmussen '364 film bonded to an adhesively embedded plurality of strands.

Because the combination of Britton and Rasmussen '364 did not disclose or even suggestion the laminate of Claims 118-122, 77, 83, 85, 89, 93 and 96 [new claim 123, 147, 136, 124, 127, and 137], the combination cannot render Claims 118-122, 77, 83, 85, 89, 93 and 96 [new claim 123, 147,

136, 124, 127, and 137] obvious. Applicant, therefore, respectfully requests withdrawal of this rejection.

20. **Claim 78 [new claim 145]** stand rejected under 35 U.S.C. 103(a) as being unpatentable over Britton (US 4,454,184) in view of Rasmussen (US 4,039,364) and Johnston (US 3,340,128).

> Regarding claim 78, Britton ('184) and Rasmussen (364) teach the laminate discussed above, however fail to expressly disclose wherein the polymer material of the discontinuous layer of at least one of the films A and B comprises coloration material in an amount and coloration sufficient amount to render the at least on colored discontinuous layer visible through at least one side of the cross-laminate.
>
> However, Johnston ('128) teaches wherein the polymer material of the strands of at least one of the arrays comprises coloration material in sufficient amount to render the at least on colored discontinuous layer visible through at least one side of the cross-laminate *(See col. 24,* I. 58.) for the purpose of providing a decorative motif *(See col. 24, ll.* 59-60.).
>
> Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to provide strands with coloration as taught by Johnston ('128) in Britton ('184) in order to provide a product having a decorative motif.

Applicant reasserts his argument regarding the combination of Britton and Rasmussen '364 here and notes that Johnston does nothing to overcome the deficiencies in the combination. Applicant, therefore, respectfully requests withdrawal of this rejection.

21. **Claims 79-82, 86, 90, 94-95, 97-98 and 100** stand rejected under 35 U.S.C. 103(a) as being unpatentable over Britton (US 4,454,184) in view of Rasmussen (US 4,039,364) and Lappala (US 2,851,389).

> Regarding claim 79, Britton ('184) and Rasmussen (364) teach the laminate discussed above, however, fail to expressly disclose a thickness of the discontinuous layers of the films A and B are not greater than 20% of a thickness of their respective films.
>
> However, Lappala ('389) teaches that any suitable diameter strand may be used *(See col. 2, I. 45, any suitable diameter can be used.),* which clearly changes the films/laminate ratio. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to select a strand with a diameter that provides the above thickness ratio as taught by Lappala ('389) for the purpose of providing a laminate that is light and strong (See col. *1, 11. 25-28.).*
>
> Regarding claim 80, Britton ('184) and Rasmussen (364) teach the laminate discussed above, however, fail to expressly disclose wherein a collective area of the discontinuous layers of the films A and B comprises no more than 60% of a surface area of their respective film sides.
>
> However, Lappala ('389) teaches that any suitable diameter strand may be used *(See col. 2, I. 45, any suitable diameter can be used.),* which clearly changes the above area ratio. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to select a strand with a diameter that provides the above area ratio as taught by Lappala (389) for the purpose of providing a laminate that is light and strong (See *col. 1, 11. 25-28.).*
>
> Regarding claim 81, Britton ('184) and Rasmussen (364) teach the laminate discussed above, however, fail to expressly disclose wherein the thickness increase in each of the films A and B at the locations where the discontinuous layers are present is at most 20% of the film thickness in adjacent regions where the discontinuous layer are absent.
>
> However, Lappala ('389) teaches that any suitable diameter strand may be used *(See col. 2, I. 45, any suitable diameter can be used.),* which clearly changes the thickness increase. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention

to select a strand with a diameter that provides the above thickness increase as taught by Lappala ('389) for the purpose of providing a laminate that is light and strong (See *col. 1, ll.* 25-28.).

Regarding claims 82 and 100, Britton ('184) and Rasmussen (364) teach the laminate discussed above, however fail to expressly disclose wherein the distance from the center-to-center of adjacent pairs of strands in each array is between 2 mm and 40 mm (not greater than 20 mm).

However, Lappala ('389) teaches that any suitable pattern may be used *(See col. 2, l. 49-51, any suitable pattern.)* for the purpose of providing a laminate that is light and strong (See *col. 1, ll.* 25-28.).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to select a suitable pattern that provides the above separation as taught by Lappala ('389) in Britton ('184) in order to provide a laminate that is light and strong.

Regarding claim 86, Britton ('184) and Rasmussen (364) teach the laminate discussed above, however fail to expressly disclose wherein the main layer of each of the two films A and B consists essentially of polyethylene or polypropylene.

However, Lappala ('389) teaches wherein the main layer of each of the two films A and B consists essentially of polyethylene *(See col. 2,* l. *31 and ll. 66-67.)* for the purpose of providing a laminate that is light and strong *(See col. 1, ll.* 25-28.).

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to have layers comprising polyethylene as taught by Lappala ('389) in Britton ('184) in order to provide a laminate that is light and strong.

Regarding claim 90, Britton ('184) and Rasmussen (364) teach the laminate discussed above, however fail to expressly disclose wherein the discontinuous layers of each of the films A and B constitutes at the highest 10% of the volume of the corresponding film.

However, Lappala ('389) teaches that any suitable diameter strand may be used *(See col. 2, l. 45, any suitable diameter can be used.)*, which clearly changes the volume. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to select a strand with a diameter that provides the above volume as taught by Lappala ('389) for the purpose of providing a laminate that is light and strong (See *col. 1, ll. 25-28.)*.

Regarding claim 94, Britton ('184) and Rasmussen (364) teach the laminate discussed above, however fail to expressly disclose wherein the thickness of the discontinuous layers of each of the films A and B are not greater than 10% of a thickness of their respective film.

However, Lappala ('389) teaches that any suitable diameter strand may be used *(See col. 2, l. 45, any suitable diameter can be used.)*, which clearly changes the films/laminate ratio. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to select a strand with a diameter that provides the above thickness ratio as taught by Lappala ('389) for the purpose of providing a laminate that is light and strong (See *col. 1, ll. 25-28.)*.

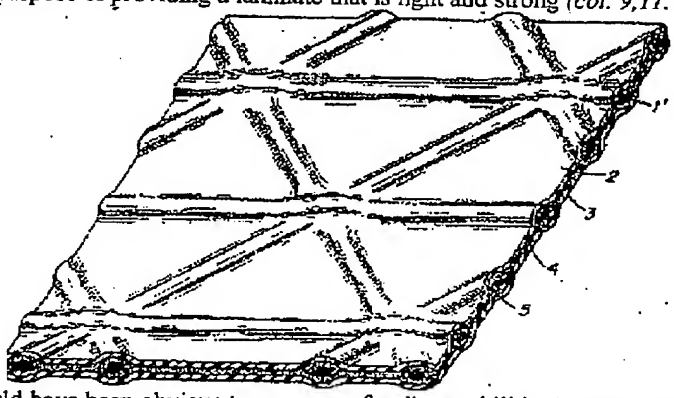
Regarding claim 95, Britton (184) and Rasmussen (364) teach the laminate discussed above, however fail to expressly disclose wherein a thickness increase in each of the films A and B at the locations where the discontinuous layer is present is at most 10% of a film thickness in regions of the films free of the discontinuous layer.

However, Lappala ('389) teaches that any suitable diameter strand may be used *(See col. 2, l. 45, any suitable diameter can be used.)*, which clearly changes the thickness increase. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to select a strand with a diameter that provides the above thickness increase as taught by Lappala ('389) for the purpose of providing a laminate that is light and strong (See *col. 1, ll.* 25-28.).

Regarding claim 97, Britton ('184) and Rasmussen (364) teach the laminate discussed above, however fail to expressly disclose wherein thickness at its thickest of about 0.3 mm and wherein an exterior surface of the film A is corrugated to form a visible pattern of striations extending in one direction, where the spacing of the striations being at most about 3 mm, the main layer and the bonding layer of the film A are substantially transparent to enable the colored strands to be visible when the laminate is observed from one of the exterior surfaces of the cross-laminate, and the depth of the corrugations being sufficient to impart a three-dimensional effect to the cross-laminate such that the strands appear to be spaced internally from the exterior surface of the film A a distance substantially greater than an actual maximum thickness of the film A.

However, Lappala ('389) teaches a laminate thickness at its thickest of about 0.3 mm *(See col. 3, ll. 34-35 and col. 2, l. 45 wherein the films are less than 0.015 in (0.381 mm).)*, the main layer and the bonding layer of the film A are substantially transparent to enable the colored strands to be

visible when the laminate is observed *from* one of the exterior surfaces of the cross-laminate *(FIG-3, #2)*, where the spacing of the striations being at most about 3 mm *(FIG-3, corrugations created by strands)* the main layer and the bonding layer of the film A are substantially transparent to enable the colored strands to be visible when the laminate is observed from one of the exterior surfaces of the cross-laminate, and the depth of the corrugations being sufficient to impart a three-dimensional effect to the cross-laminate such that the strands appear to be spaced internally from the exterior surface of the film A a distance substantially greater than an actual maximum thickness of the film A *(See col. 2,* l. 7.), for the purpose of providing a laminate that is light and strong *(col. 9,ll. 25-28)*.



Therefore, it would have been obvious to a person of ordinary skill in the art the time of applicant's invention to provide such a spacing .and configuration as taught by Lappala ('389) in Britton ('184) in order to provide a light and strong laminate.

Regarding claim 98, Britton ('184) and Rasmussen (364) teach the laminate discussed above, however fail to expressly disclose wherein the discontinuous layers of each of the films A and B constitutes at their highest 5% of a height of their corresponding film.

However, Lappala ('389) teaches that any suitable diameter strand may be used *(See col. 2, l. 45, any suitable diameter can be used.)*, which clearly changes the volume. Therefore, it would 'have been obvious to a person of ordinary skill in the art at the time of applicant's invention to select a strand with a diameter that provides the above height as taught by Lappala ('389) for the purpose of providing a laminate that is light and strong *(col. 1, ll.* 25-28).

Applicant reasserts his argument regarding the combination of Britton and Rasmussen '364 here and notes the Lappala does nothing to overcome the deficiencies in the combination. Applicant, therefore, respectfully requests withdrawal of this rejection.

22. **Claims 87-88, 91-92 and 99 [142-143, 138-139 and 140]** stand rejected under 35 U.S.C. 103(a) as being unpatentable over Britton (US 4,454,184) in view of Rasmussen (US 4,039,364), Velazquez (US 5,614,297) and Cederblad et al. (US 6,204,207).

Regarding claim 87, Britton (184) and Rasmussen (364) teaches the laminate discussed above, and Rasmussen (364) teaches the laminate wherein the main layers are selected from the group consisting of HDPE, LLDPE or a blend of the two *(col. 13, ll. 3-7)*, and the strands in the first surface layers of the films is selected from a polymer which consists essentially of a copolymer of ethylene *(col. 13, ll. 11-30)*, however, fail to expressly disclose wherein the bonding layers comprise LLDPE in admixture with 5 - 25% of a copolymer of ethylene having a melting point or a melting range within the temperature range of 50 - 80 °C, the discontinuous layers comprise a copolymer of ethylene having a melting point or a melting range within the temperature range of 50 - 100 °C.

However, Velazquez (297) teaches wherein the bonding layers comprise LLDPE in admixture with 5 - 25% of a copolymer of ethylene having a melting point or a melting range within the temperature range of 50 - 80 °C (col. *8, ll.* 26-47 *and col.* 3, l. 46) for the purpose or providing a

film that can be laminated with one or more films *(col. 6, II. 13-17)*.

Furthermore, Cederblad ('207) teaches wherein the discontinuous layers comprise a copolymer of ethylene having a melting point or a melting range within the temperature range of 50 - 100 °C (col. *12, I. 42 wherein the melting point is 67 °C /152* °F) for the purpose of forming firm bonds *(col. 6, I.* 63).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide a laminate with a surface layer of LLDPE and ethylene with the above melting point range and the above strands as taught by Velazquez (297) and Cederblad ('207) in Britton ('184) to provide a laminate as described above.

Regarding claims 91-92 and 99, Britton ('184) and Rasmussen (364) teach the laminate discussed above, however fail to expressly disclose wherein an average melting point of the polymer material of the discontinuous layer of each of the films A and B is at least about 10 °C/15 °C/20 °C lower than the average melting point of the polymer material which of the main layer of each of the films A and B.

However, Cederblad ('207) teaches wherein the average average melting point of the polymer material of the discontinuous layer of each of the films A and B is at least about 10 °C/20 °C lower than the average melting point of the polymer material which of the main layer of each of the films A and B (col. *12, II.* **38-53)** for the purpose of providing firm and light bonds *(col. 6, 11..60-67)*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide strands with melting points below that of the films as taught by Cederblad ('207) in Britton ('184) in order to produce a laminate with firm and light bonds.

Applicant reasserts his argument regarding the combination of Britton and Rasmussen '364 here and notes the Velazquez and Cederblad do nothing to overcome the deficiencies in the combination. Applicant, therefore, respectfully requests withdrawal of this rejection.

ANSWERS TO APPLICANT'S ARGUMENTS

The Examiner contends as follows:

23. In response to Applicant's arguments *(pp. 16-32 of Applicant's Paper filed 7 August 2007)* that the amended claims are patentable over the prior art previously made or record, it is noted said arguments are directed to the amended claims which are discussed above. Furthermore, it is noted that the newly cited Rasmussen reference (WO 01/96102) and the other references teach all of Applicant's claims as discussed above.

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE** FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Applicant acknowledges the statements of the Examiner and disagrees with the assessment as set forth above that the newly cited Rasmussen reference in combination with the other reference render the present invention obvious. In fact, Applicant believes that the present invention is fully patentable over the cited references including the newly cited Rasmussen reference.

Having fully responded to the Examiner's Non-Final Office Action, Applicant respectfully urges that is application be passed onto allowance.

The Commissioner is authorized to charge any claim charges or refund any

overpayments associated with this response to Deposit Account 501518.

If it would be of assistance in resolving any issues in this application, the Examiner is kindly invited to contact applicant's attorney Robert W. Strozier at 713.977.7000

Respectfully submitted,

Date: **April 7, 2008**

Robert W. Strozier
Reg. No. 34,024

Claim Cross-Reference Table

77	part of 123	88	143	97	146
78	145	89	144	98	133
79	canceled	90	132	99	140
80	128	91	138	100	135
81	129	92	139	118	123
82	134	93	127	119	part of 123
83	136	94	canceled	120	part of 123
85	124	95	130	121	147
86	141	96	137	122	part of 147
87	142				